

Claims

- [c1] 1. A flow sensor tube assembly, comprising:
- a base member having first and second generally opposing sides;
 - an opening extending through the base member;
 - a flow sensor tube having an end received in the opening;
 - a filler material situated in the opening surrounding the flow sensor tube adjacent the first side of the base member; and
 - the flow sensor tube being welded to the base member adjacent the second side of the base member.
- [c2] 2. The flow sensor tube assembly of claim 1, wherein the opening has first and second segments defining first and second diameters, respectively, the first diameter being greater than the second diameter.
- [c3] 3. The flow sensor tube assembly of claim 2, wherein the filler material is situated in the first segment of the opening surrounding the flow sensor tube.
- [c4] 4. The flow sensor tube assembly of claim 1, further comprising a nipple defined by the second side of the

base member.

- [c5] 5. The flow sensor tube assembly of claim 2, further comprising a nipple defined by the second side of the base member, wherein the second segment of the opening is situated at least partially in the nipple.
- [c6] 6. The flow sensor tube assembly of claim 1, wherein the second side of the base member adjacent the opening is formed around the flow sensor tube so as to eliminate a gap between the opening and the flow sensor tube.
- [c7] 7. The flow sensor tube assembly of claim 4, wherein the nipple is formed around the flow sensor tube so as to eliminate a gap between the opening and the flow sensor tube.
- [c8] 8. The flow sensor tube assembly of claim 1, wherein a portion of the flow sensor tube extends from second side of the base member.
- [c9] 9. The flow sensor tube assembly of claim 1, further comprising:
 - a second opening extending through the base member;
 - a second end of the flow sensor tube being received in the second opening;
 - a filler material situated in the second opening sur-

rounding the flow sensor tube adjacent the first side of the base member; and
the second end of the flow sensor tube being welded to the base member adjacent the second side of the base member.

[c10] 10. The flow sensor tube assembly of claim 1, further comprising a groove defined in the first side of the base member surrounding the opening creating a raised boss adjacent the opening.

[c11] 11. The flow sensor tube assembly of claim 1, wherein the filler material comprises a braze material.

[c12] 12. The flow sensor tube assembly of claim 1, wherein the filler material comprises solder.

[c13] 13. The flow sensor tube assembly of claim 1, wherein the filler material comprises an epoxy.

[c14] 14. A method of attaching a tube to a base member, comprising:

inserting an end of the tube into an opening extending through the base member;

situating a filler material around the tube in the opening adjacent a first side of the base member;

and

welding the tube to the base member adjacent a sec-

ond side of the base member.

- [c15] 15. The method of claim 14, wherein the opening has first and second segments defining first and second diameters, respectively, the first diameter being greater than the second diameter, wherein situating the filler material includes situating the filler material around the tube in the first segment of the opening.
- [c16] 16. The method of claim 14, further comprising swaging the second side of the base member to the tube.
- [c17] 17. The method of claim 16, wherein swaging the second side of the base member includes swaging a nipple extending from the second side of the base member to the tube.
- [c18] 18. The method of claim 14, wherein the tube is inserted into the opening such that a portion of the tube extends from second side of the base member.
- [c19] 19. The method of claim 14, further comprising:
 - inserting a second end of the tube into a second opening extending through the base member;
 - situating a filler material around the second end of the tube in the second opening adjacent the first side of the base member; and
 - welding the second end of the tube to the base

member adjacent the second side of the base member.

[c20] 20. The method of claim 14, wherein the filler material comprises a braze material, the method further comprising inductively heating the braze material situated in the opening.

[c21] 21. A flow sensor tube assembly, comprising:
a base member having first and second generally opposing sides;
an opening extending through the base member;
a flow sensor tube having an end received in the opening;
first means for attaching the flow sensor tube to the base member adjacent the first side of the base member; and
second means for attaching the flow sensor tube to the base member adjacent the second side of the base member.